STATEMENT OF BASIS

Globe Metallurgical

Selma, AL

Dallas County

104-0001

This proposed Title V Major Source Operating Permit renewal is issued under the provisions of ADEM Admin. Code R. 335-3-16. The above named applicant has requested authorization to perform the work or operate the facility shown on the application and drawings, plans and other documents attached hereto or on file with the Air Division of the Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit.

Globe Metallurgical was issued its existing Major Source Operating Permit (MSOP) on January 5, 2011, with an expiration date of September 10, 2015. Per ADEM Rule 335-3-16-.12(2), an application for permit renewal shall be submitted at least six (6) months, but not more than eighteen (18) months, before the date of expiration of the permit. Based on this rule, the application for renewal was due to the Department no later than March 10, 2015, but no earlier than March 10, 2014. An application for permit renewal was received by the Department on March 10, 2015. Based on this the Department considers this to be a timely application. Additional information was received on May 11, 2015. The proposed MSOP will expire on September 10, 2020.

Based on the Title V Permit application Globe Metallurgical is a major source for Particulate Matter (PM), Sulfur Dioxide (SO_2), Nitrogen Oxide (NO_X), Carbon Monoxide (CO), Hydrogen Chloride (HCl), and total HAPs.

The significant sources of air pollution at the facility are:

- 20 MW Electric Arc Furnace No. 1 & Associated Tapping Operation with Baghouse
- 20 MW Electric Arc Furnace No. 2 & Associated Tapping Operation with Baghouse
- Product Crushing, Screening, and Processing with Baghouse 3 & 4
- Product Handling
- Emergency Generators

The previous Title V Major Source Operating Permit renewal incorporated the ability to produce addition products; ferromanganese and silicomanganese. These products have not yet been produced at the facility, but Globe would like to retain their ability to produce these produces.

X001 Silicomanganese and Ferromanganese Production
(20 MW Submerged Arc Furnace No. 1 & Tapping Operation w/ Baghouse No. 1)

X002 Silicomanganese and Ferromanganese Production
(20 MW Submerged Arc Furnace No. 2 & Tapping Operation w/ Baghouse No. 2)

X003 Silicomanganese and Ferromanganese Production
Product Handling, Crushing, and Screening w/ Baghouses 3 & 4

This process is subject to 40 CFR Part 63 Subpart XXX, National Emission Standards for Hazardous Air Pollutants for Ferroalloys Production: Ferromanganese and Silcomanganese.

Silicon Metal Production (Scenario #1)

20 MW Electric Arc Furnace No. 1 & Associated Tapping Operation with Baghouse (EP-001)

Globe Metallurgical uses this furnace and associated tapping operation for the production of silicon metal. Globe feeds quartz, coal, wood chips, limestone, etc. into the electric arc furnace, which is heated from electrodes in the top of the furnace. The raw materials are melted and molten silicon metal is tapped from the furnace hearth. Emissions are captured by hood systems and vented through a baghouse.

Emission Standards:

PM:

Particulate matter emissions from this unit shall not exceed 0.99 lb per Megawatt-hr.

40 CFR 60 Subpart Z, §60.262(a)(1)

or

$E = 3.59 (P)^{0.62}$ (P less than 30 tons per hour)

$E = 17.31(P)^{0.16}$ (P greater than 30 tons per hour)

where E = Emissions in pounds per hour

P = Process weight per hour in tons per hour

ADEM Admin. Code R. 335-3-4-.04(1)

The allowable for this unit would be the greater of the above standards.

ADEM Admin. Code R. 335-3-10-.01(2) states "The emission standards in this Chapter shall supercede the emission standards in Chapters 335-3-3, -4, -5, -6, -7, and -8 if both of the following criteria are met: 1) the source category is subject to the regulations in this Chapter for the specific pollutants to which an emission standard under this Chapter applies, and 2) the emission standard under Chapters 335-3-3, -4, -5, -6, -7, and -8 is more stringent than the emission standard in this Chapter for the specific pollutants regulated.

The SIP process weight is more stringent than the NSPS allowable and the source category, Ferro Alloy Production, is subject to an NSPS, Subpart Z. Therefore ADEM Admin. Code R. 335-3-10-.01(2) is applicable in this case. The furnace is subject to the NSPS emissions limit, but not the other requirements of the NSPS.

ADEM Admin Code R. 335-3-10-.01(2)

Opacity:

Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code R. 335-3-4-.01(1)

Expected Emissions:

Particulate Matter (PM):

The expected PM controlled emissions from the baghouse are 6.2 lbs/hr (26.9 TPY), which is below the standard for PM set by the above standards. This is based on stack test data and operating 8,760 hours per year.

Sulfur Dioxide (SO_2):

The expected SO_2 emissions are 80 lbs/hr (349 TPY). This is based on a mass balance and operating 8,760 hours per year.

Nitrogen Oxides (NO_X):

The expected NO_X emissions are 62 lbs/hr (269 TPY). This is based on stack test data and operating 8,760 hours per year.

Carbon Monoxide (CO):

The expected CO emissions are 88.9 lbs/hr (389 TPY). This is based on stack test data and operating 8,760 hours per year.

Volatile Organic Compounds (VOC):

The expected VOC emissions are 5.7 lbs/hr (25 TPY). This is based on stack test data and operating 8,760 hours per year.

Hydrogen Chloride (HCl)

The expected HCl emissions are 8.4 lbs/hr (37 TPY). This is based on stack test data and operating 8,760 hours per year.

Monitoring:

This unit is subject to the Compliance Assurance Monitoring (CAM) for PM only; because the unit has pre-controlled potential emissions greater than the major source threshold, is subject to an emission limit for PM, and uses a control device to achieve compliance with the applicable emission limit. In addition to CAM the following periodic monitoring is also performed to ensure the control equipment is operating properly.

The facility shall perform a weekly visual check of the furnace building. This shall be performed by a person familiar with Method 9. If visible emissions in excess of 15% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform a daily inspection of the furnace building to verify proper operation of the furnace baghouse.

The following activities shall be performed:

(a) Once per day check the furnace and tap hoods for fugitive emissions.

(b) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform a weekly inspection of the furnace baghouse to verify proper operation.

The following activities shall be performed:

(a) Once per week the baghouse shall be inspected for damaged bags, air leaks, water infiltration, caking or blinding of bags, proper cleaning function, and cycling. Maintenance shall be performed as needed.

(b) Once per week a visual check of all hoods and ductwork associated with the baghouse.

(c) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform the following annual inspections of the main baghouse to verify proper operation.

The following activities shall be performed:

(a) Internal inspection of structure, access doors, and bags.

(b) Internal inspection of all hoppers.

(c) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

Recordkeeping & Reporting:

The facility shall maintain a record of all inspections, to include visible observations, performed to satisfy the requirements of periodic monitoring and Compliance Assurance Monitoring. This shall include all problems observed and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c) & 40 CFR Part 64

The facility shall maintain a record of all weekly and annual baghouse inspections to satisfy the requirements of periodic monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall report any Method 9's on the furnace baghouse with a six minute average opacity over 20%. Such reports shall be made within 48 hrs of such observations.

40 CFR Part 64

The facility shall maintain a record of all differential pressure readings performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

40 CFR Part 64

The facility shall maintain a record of all temperature readings for the baghouse performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems

observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

40 CFR Part 64

CAM Plan for 20 MW EAF No. 1 and Associated Tapping Operation with Baghouse No. 1

	Indicator 1	Indicator 2	Indicator 3
I. Indicator	Visible Emissions	Differential Pressure	Baghouse Inlet Temperature
Measurement Approach	Trained and qualified personnel will do a visible inspection.	Measured using a pressure gauge.	Measured using a temperature gauge.
II. Indicator Range	While the unit is operating, an excursion is defined as the presence of visible emissions greater than 10% opacity. Excursions trigger an inspection, corrective action, and a reporting requirement. If an excursion is noted and not corrected within a period of (1) one hour, then a method 9 must be performed within (4) four hours of the observation.	While the unit is operating, an excursion is defined as a pressure differential below 3.0 inches of H_2O or greater than 16.0 inches of H_2O. Excursions trigger an inspection, corrective action, and a reporting requirement.	While the unit is operating, an excursion is defined as a temperature that is above 525 ºF. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria			
1. Data Representativeness	Measurement is being made at the emission point (baghouse exhaust).	The pressure differential is being measured between the inlet and outlet of the baghouse.	The temperature is being measured at the inlet to the baghouse.
2. Verification of Operation Status	Not Applicable	Not Applicable	Not Applicable
3. QA/QC Practices and Criteria	Qualified personnel will perform the visible inspection.	The pressure gauge will be calibrated and maintained per the manufacturer's recommendation or at least annually, which ever is more frequent.	The temperature gauge will be calibrated and maintained per the manufacturer's recommendation or at least annually, which ever is more frequent.
4. Monitoring Frequency	The visible inspection will be performed daily.	The pressure drop will be monitored continuously.	The temperature will be monitored continuously.
5. Data Collection Procedures	The visible inspection will be recorded with the time, date, and name of the observer.	The pressure differential will be recorded with the time, and date.	The temperature will be recorded with the time and date.
6. Averaging Period	Instantaneous	Nine (9) Minute Average	Nine (9) Minute Average

20 MW Electric Arc Furnace No. 2 & Associated Tapping Operation with Baghouse (EP-002)

Globe Metallurgical uses this furnace and associated tapping operation for the production of silicon metal. Globe feeds quartz, coal, wood chips, limestone, etc. into the electric arc furnace, which is heated from electrodes in the top of the furnace. The raw materials are melted and molten silicon metal is tapped from the furnace hearth. Emissions are captured by hood systems and vented through a baghouse.

Emission Standards:

PM:

Particulate matter emissions from this unit shall not exceed 0.99 lb per Megawatt-hr.

40 CFR 60 Subpart Z, §60.262(a)(1)

or

$E = 3.59\ (P)^{0.62}$ (P less than 30 tons per hour)

$E = 17.31(P)^{0.16}$ (P greater than 30 tons per hour)

where E = Emissions in pounds per hour

P = Process weight per hour in tons per hour

ADEM Admin. Code R. 335-3-4-.04(1)

The allowable for this unit would be the greater of the above standards.

ADEM Admin. Code R. 335-3-10-.01(2) states "The emission standards in this Chapter shall supercede the emission standards in Chapters 335-3-3, -4, -5, -6, -7, and -8 if both of the following criteria are met: 1) the source category is subject to the regulations in this Chapter for the specific pollutants to which an emission standard under this Chapter applies, and 2) the emission standard under Chapters 335-3-3, -4, -5, -6, -7, and -8 is more stringent than the emission standard in this Chapter for the specific pollutants regulated.

The SIP process weight is more stringent than the NSPS allowable and the source category, Ferro Alloy Production, is subject to an NSPS, Subpart Z. Therefore ADEM Admin. Code R. 335-3-10-.01(2) is applicable in this case. The furnace is subject to the NSPS emissions limit, but not the other requirements of the NSPS.

ADEM Admin. Code R. 335-3-10-.01(2)

Opacity:

Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code R. 335-3-4-.01(1)

Expected Emissions:

Particulate Matter (PM):

The expected PM controlled emissions from the baghouse are 6.2 lbs/hr (26.9 TPY), which is below the standard for PM set by the above standards. This is based on stack test data and operating 8,760 hours per year.

Sulfur Dioxide (SO_2):

The expected SO_2 emissions are 94 lbs/hr (412 TPY). This is based on a mass balance and operating 8,760 hours per year.

Nitrogen Oxides (NO_X):

The expected NO_X emissions are 66 lbs/hr (286 TPY). This is based on stack test data and operating 8,760 hours per year.

Carbon Monoxide (CO):

The expected CO emissions are 88.9 lbs/hr (389 TPY). This is based on stack test data and operating 8,760 hours per year.

Volatile Organic Compounds (VOC):

The expected VOC emissions are 11.2 lbs/hr (49 TPY). This is based on stack test data and operating 8,760 hours per year.

Hydrogen Chloride (HCl):

The expected HCl emissions are 8.4 lbs/hr (37 TPY). This is based on stack test data and operating 8,760 hours per year.

Monitoring:

This unit is subject to the Compliance Assurance Monitoring (CAM) for PM only; because the unit has pre-controlled potential emissions greater than the major source threshold, is subject to an emission limit for PM, and uses a control device to achieve compliance with the applicable emission limit. In addition to CAM the following periodic monitoring is also performed to ensure the control equipment is operating properly.

The facility shall perform a weekly visual check of the furnace building. This shall be performed by a person familiar with Method 9. If visible emissions in excess of 15% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform a daily inspection of the furnace building to verify proper operation of the furnace baghouse.

The following activities shall be performed:

(a) Once per day check the furnace and tap hoods for fugitive emissions.
(b) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform a weekly inspection of the furnace baghouse to verify proper operation.

The following activities shall be performed:

(a) Once per week the baghouse shall be inspected for damaged bags, air leaks, water infiltration, caking or blinding of bags, proper cleaning function, and cycling. Maintenance shall be performed as needed.
(b) Once per week a visual check of all hoods and ductwork associated with the baghouse.
(c) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform the following annual inspections of the main baghouse to verify proper operation.

The following activities shall be performed:

(a) Internal inspection of structure, access doors, and bags.

(b) Internal inspection of all hoppers.

(c) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

Recordkeeping & Reporting:

The facility shall maintain a record of all inspections, to include visible observations, performed to satisfy the requirements of periodic monitoring and Compliance Assurance Monitoring. This shall include all problems observed and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c) & 40 CFR Part 64

The facility shall maintain a record of all weekly and annual baghouse inspections to satisfy the requirements of periodic monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall report any Method 9's on the furnace baghouse with a six minute average opacity over 20%. Such reports shall be made within 48 hrs of such observations.

40 CFR Part 64

The facility shall maintain a record of all differential pressure readings performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

40 CFR Part 64

The facility shall maintain a record of all temperature readings for the baghouse performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

40 CFR Part 64

CAM Plan for 20 MW EAF No. 2 and Associated Tapping Operation with Baghouse No. 2

	Indicator 1	Indicator 2	Indicator 3
I. Indicator	Visible Emissions	Differential Pressure	Baghouse Inlet Temperature
Measurement Approach	Trained and qualified personnel will do a visible inspection.	Measured using a pressure gauge.	Measured using a temperature gauge.
II. Indicator Range	While the unit is operating, an excursion is defined as the presence of visible emissions greater than 10% opacity. Excursions trigger an inspection, corrective action, and a reporting requirement. If an excursion is noted and not corrected within a period of (1) one hour, then a method 9 must be performed within (4) four hours of the observation.	While the unit is operating, an excursion is defined as a pressure differential below 3.0 inches of H_2O or greater than 16.0 inches of H_2O. Excursions trigger an inspection, corrective action, and a reporting requirement.	While the unit is operating, an excursion is defined as a temperature that is above 525 ºF. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria			
1. Data Representativeness	Measurement is being made at the emission point (baghouse exhaust).	The pressure differential is being measured between the inlet and outlet of the baghouse.	The temperature is being measured at the inlet to the baghouse.
2. Verification of Operation Status	Not Applicable	Not Applicable	Not Applicable
3. QA/QC Practices and Criteria	Qualified personnel will perform the visible inspection.	The pressure gauge will be calibrated and maintained per the manufacturer's recommendation or at least annually, which ever is more frequent.	The temperature gauge will be calibrated and maintained per the manufacturer's recommendation or at least annually, which ever is more frequent.
4. Monitoring Frequency	The visible inspection will be performed daily.	The pressure drop will be monitored continuously.	The temperature will be monitored continuously.
5. Data Collection Procedures	The visible inspection will be recorded with the time, date, and name of the observer.	The pressure differential will be recorded with the time, and date.	The temperature will be recorded with the time and date.
6. Averaging Period	Instantaneous	Nine (9) Minute Average	Nine (9) Minute Average

Product Handling, Crushing, and Screening with Baghouse 3 & 4 (EP003 & EP004)

This process includes product crushing, screening, transfer, and loadout. Cast silicon metal from casting chills is broken up, loaded on to a conveyor, transferred to a crusher, and screened. Product is loaded into boxes and trucks. Product conveyors, screens, and crushers are ducted to the two baghouses.

Emission Standards:

PM:

The particulate matter emission from these units shall not exceed the allowable as set by Rule 335-3-4-.04(1):

$E = 3.59 (P)^{0.62}$ (P less than 30 tons per hour)

where E = Emissions in pounds per hour

P = Process weight per hour in tons per hour

ADEM Admin. Code R. 335-3-4-.04(1)

At maximum capacity, production rate of 30,000 lbs/hr, the PM allowable for each unit would be 19.24 lbs/hr.

Opacity:

Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code R. 335-3-4-.01(1)

Expected Emissions:

Particulate Matter (PM):

The expected PM controlled emissions from the baghouses are 0.08 lbs/hr (0.33 TPY). This is based on AP-42 and Ohio EPA emission factors and a 99% control efficiency for the baghouses.

Periodic Monitoring:

The facility shall perform a visual check, once per week, of the baghouse stacks associated with these units. This check shall be performed by a person familiar with Method 9. If visible emissions in excess of 10% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform the following weekly inspections of the baghouses associated with these units to verify proper operation.

The following activities shall be performed:

(a) Once per week check the capture hoods associated with this permit for fugitive emissions.

(b) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform the following monthly inspections of the baghouses associated with these units to verify proper operation.

The following activities shall be performed:

(a) Once per month check hopper, fan, and cleaning cycle for proper operation.

(b) Once per month a visual check of all hoods and ductwork.

(c) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform the following annual inspections of the baghouses associated with these units to verify proper operation.

The following activities shall be performed:

(a) Internal inspection of structure, access doors, and bags.

(b) Internal inspection of all hoppers.

(c) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

CAM:

This operation does not have pre-controlled potential emissions greater than any major source threshold; therefore, CAM does not apply.

Recordkeeping & Reporting:

The facility shall maintain a record of all inspections, to include visible observations and Method 9's, performed to satisfy the requirements of periodic monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall report any Method 9's with an average opacity over 20%. Such reports shall be made within 48 hrs of such observations

ADEM Admin. Code R. 335-3-16-.05(c)

Product Handling (F004)

Product handling includes raw material receiving transfer, and storage. Wood chips, gravel, and coal are received and transferred via the conveyor system to storage piles, enclosed bins, or silos. From bins, material is transferred to the furnace via conveyor.

Emission Standards:

PM:

The particulate matter emission from this unit shall not exceed the allowable as set by Rule 335-3-4-.04(1):

$E = 3.59 (P)^{0.62}$ (P less than 30 tons per hour)

where E = Emissions in pounds per hour

P = Process weight per hour in tons per hour

ADEM Admin. Code R. 335-3-4-.04(1)

Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code R. 335-3-4-.01(1)

Expected Emissions:

Particulate Matter (PM):

The expected PM emissions are 4.6 lb/hr (20.2 TPY). This is based on AP-42 and US EPA "Fugitive Emissions from Integrated Iron & Steel Plants" emission factors.

Periodic Monitoring, Recordkeeping, & Reporting:

These units are not subject to any emissions standards other than those in the general provisos and do not require add-on controls. Therefore the units are not subject to any additional monitoring or recordkeeping and reporting requirements other than those listed in the general provisos.

CAM:

This operation is uncontrolled; therefore, CAM does not apply.

Ferromanganese and Silicomanganese Production (Scenario #2)

20 MW Electric Arc Furnace No. 1 & Associated Tapping Operation with Baghouse (EP-001)

Globe Metallurgical uses this furnace and associated tapping operation for the production of ferromanganese and silicomanganese. The process equipment to make these products is the same as the existing process for silicon metal production, only some raw materials are different. The raw materials have change because during this process Globe will be producing ferromanganese and silicomanganese instead of silicon metal. This process is subject to the applicable requirements of 40 CFR Part 63 Subpart XXX, National Emission Standards for Hazardous Air Pollutants for Ferroalloys Production: Ferromanganese and Silicomanganese.

Emission Standards:

PM:

This process is subject to the following PM emission standards:

Standard 1 – Particulate matter emissions from this unit shall not exceed:

9.8 kg/hr (21.7 lbs/hr) when producing ferromanganese in an open furnace operating at a furnace power input of 22 MW or less

or

12.3 kg/hr (27.2 lbs/hr) when producing silicomanganese in an open furnace operating at a furnace power input of 25 MW or less.

40 CFR 63 Subpart XXX, §63.1652(b)(1) & §63.1652(b)(4)

Standard 2 – Particulate matter emissions from this unit shall not exceed 0.51 lb per Megawatt-hr.

40 CFR 60 Subpart Z, §60.262(a)(2)

or

$E = 3.59 (P)^{0.62}$ (P less than 30 tons per hour)

$E = 17.31(P)^{0.16}$ (P greater than 30 tons per hour)

where E = Emissions in pounds per hour

P = Process weight per hour in tons per hour

ADEM Admin. Code R. 335-3-4-.04(1)

The allowable for this unit would be the greater of the ADEM Admin Code R. 335-3-4-.04(1) and

the 40 CFR 60 Subpart Z §60.262(a)(1) emission standards.

ADEM Admin. Code R. 335-3-10-.01(2) states "The emission standards in this Chapter shall supercede the emission standards in Chapters 335-3-3, -4, -5, -6, -7, and -8 if both of the following criteria are met: 1) the source category is subject to the regulations in this Chapter for the specific pollutants to which an emission standard under this Chapter applies, and 2) the emission standard under Chapters 335-3-3, -4, -5, -6, -7, and -8 is more stringent than the emission standard in this Chapter for the specific pollutants regulated.

The SIP process weight could be more stringent than the NSPS allowable and the source category, Ferro Alloy Production, is subject to an NSPS, Subpart Z. Therefore ADEM Admin. Code R. 335-3-10-.01(2) is applicable in this case. The furnace is subject to the NSPS emissions limit, but not the other requirements of the NSPS.

ADEM Admin. Code R. 335-3-10-.01(2)

If conditions occur when Standard 1 is less stringent than Standard 2, then Standard 2 would apply.

Opacity:

The emissions exiting from a shop due solely to operations of any affected submerged arc furnace, shall not exceed 20 percent opacity for more than one 6-minute period during any performance test, except when blowing taps, poling, and oxygen lancing of the tap hole; burndowns associated with electrode measurements; and maintenance activities associated with submerged arc furnaces and casting operations are exempt from the opacity standards specified in this section.

40 CFR 63 Subpart XXX, §63.1653

SO_2:

The sulfur content of the coke utilized in the Submerged Arc Furnace shall not exceed 0.75% by weight.

ADEM Admin. Code R. 334-3-14-.04 (Anti-PSD)

Expected Emissions:

Particulate Matter (PM):

The expected PM controlled emissions from the baghouse are 4.2 lbs/hr (18.4 TPY). This is based on AP-42 emission factors and operating 8,760 hours per year. According to Globe Metallurgical, the baghouse has a controlled efficiency of 99.5%.

Sulfur Dioxide (SO_2):

The expected SO_2 emissions are 80 lbs/hr (349 TPY). This is based on a mass balance and operating 8,760 hours per year.

Nitrogen Oxides (NO_X):

The expected NO_X emissions are 62 lbs/hr (269 TPY). This is based on stack test data and operating 8,760 hours per year.

Carbon Monoxide (CO):

The expected CO emissions are 89 lbs/hr (385.5 TPY). This is based on stack test data and operating 8,760 hours per year.

Volatile Organic Compounds (VOC):

The expected VOC emissions are 5.7 lbs/hr (25 TPY). This is based on stack test data and operating 8,760 hours per year.

Hydrogen Chloride (HCl):

The expected HCl emissions are 8.4 lbs/hr (37 TPY). This is based on stack test data and operating 8,760 hours per year.

Lead

The expected lead emissions are 0.023 lbs/hr (0.1 TPY). This is based on a mass balance and operating 8,760 hours per year.

MACT Monitoring:

The facility must observe on a daily basis for the presence of any visible emissions and conduct the following activities:

(a) Daily monitoring of pressure drop across each baghouse cell, or across the baghouse if it is not possible to monitor each cell individually, to ensure the pressure drop is within the normal operating range identified in the baghouse maintenance plan.
(b) Weekly confirmation that dust is being removed from hoppers through visual inspection, or equivalent means of ensuring the proper functioning of removal mechanisms.
(c) Daily check of compressed air supply for pulse-jet baghouses.
(d) An appropriate methodology for monitoring cleaning cycles to ensure proper operation.
(e) Monthly check of bag cleaning mechanisms for proper functioning through visual inspection or equivalent means.
(f) Quarterly visual check of bag tension on reverse air and shaker-type baghouses to ensure that the bags are not kinked (kneed or bent) or laying on their sides. Such checks are not required for shaker-type baghouses using self-tensioning (spring loaded) devices.
(g) Quarterly confirmation of the physical integrity of the baghouse structure through visual inspection of the baghouse interior for air leaks.
(h) Semiannual inspection of fans for wear, material buildup, and corrosion through visual inspection, vibration detectors, or equivalent means.

40 CFR 63 Subpart XXX, §63.1657(a)(1) & §63.1657(a)(2)

The facility must develop and implement corrective action procedures (as part of the maintenance plan required by 40 CFR §63.1655(b)) to be followed in the case of an observation of visible emissions from the baghouse or the indication through the periodic baghouse system inspections that the system is not operating properly. The owner or operator must initiate corrective action as soon as practicable after the occurrence of the observation or event indicating a problem.

40 CFR 63 Subpart XXX, §63.1657(a)(4), §63.1657(a)(5), & §63.1657(a)(6)

The facility must comply with one of the following monitoring options:

(a) The owner or operator must check and record the control system fan motor amperes and capture system damper positions once per shift.
(b) The owner or operator must install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate through each separately ducted hood.
(c) The owner or operator must install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate at the inlet of the air pollution control device and must check and record the capture system damper positions once per shift.

The selected option must be consistent with that selected during the initial performance test. Failure to maintain the appropriate capture system parameters (fan motor amperes, flow rate, and/or damper positions) establishes the need to initiate corrective action as soon as practicable after the monitoring excursion in order to minimize excess emissions.

40 CFR 63 Subpart XXX, §63.1657(c)

The facility must prepare and implement a fugitive dust control plan according to 40 CFR 63.11654(a).

40 CFR 63 Subpart XXX, §63.1654(a)

The facility must develop and implement a written maintenance plan for each air pollution control device associated with the submerged arc furnace according to 40 CFR 63.1655(b) & (c).

40 CFR 63 Subpart XXX, §63.1655(b) & §63.1655(c)

Periodic Monitoring:

The facility shall perform a visual check, once per week, of the baghouse stack associated with this unit. This check shall be performed by a person familiar with Method 9. If visible emissions in excess of 10% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform a weekly visual check of the furnace building. This shall be performed by a person familiar with Method 9. If visible emissions in excess of 15% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform a daily inspection of the furnace building to verify proper operation of the furnace baghouse.

The following activities shall be performed:

(a) Once per day check the furnace and tap hoods for fugitive emissions.

(b) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

CAM:

This unit could potentially be subject to Compliance Assurance Monitoring (CAM) for PM, but the unit is subject to 40 CFR Part 63 Subpart XXX requirements, which is considered presumptively acceptable monitoring in regards to CAM. This unit is not subject to CAM for SO_2 because the control device for this unit is not used to comply with the applicable SO_2 standard.

Recordkeeping & Reporting:

This operation is subject to the applicable requirements of 40 CFR Part 63 Subpart XXX, "National Emission Standards for Hazardous Air Pollutants for Ferroalloy Production: Ferromanganese and Silicomanganese" to include the reporting requirements in §63.1659(a) and §63.1659(b)(1,3,4,6(ii)).

40 CFR 63 Subpart XXX, §63.1659(a) & §60.1659(b)(1,3,4,6(ii))

The facility shall comply with all reporting requirements under 40 CFR §63.10 of subpart A.

40 CFR 63 Subpart XXX, §63.1659(a)

The facility shall submit semiannual monitoring reports in accordance with 40 CFR §63.1659(b).

40 CFR 63 Subpart XXX, §63.1659(b)

The facility shall submit periodic startup, shutdown, and malfunction reports in accordance with 40 CFR §63.10(d)(5) and §63.1659(a)(4).

40 CFR 63 Subpart A, §63.10(d)(5) & 40 CFR 63 Subpart XXX, §63.1659(a)(5)

This operation is subject to the applicable requirements of 40 CFR Part 63 Subpart XXX, "National Emission Standards for Hazardous Air Pollutants for Ferroalloy Production: Ferromanganese and Silicomanganese" to include the recordkeeping requirements in §63.1660(a) and §63.1660(b)(1(ii,v,vi,vii),2).

40 CFR 63 Subpart XXX, §63.1660(a) & §63.1660(b)(1(ii,v,vi,vii),2)

The facility shall maintain a record of all inspections, to include visible observations, performed to satisfy the requirements of periodic monitoring. This shall include all problems observed and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall report any Method 9's on the furnace baghouse with a six minute average opacity over 20%. Such reports shall be made within 48 hrs of such observations.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall maintain records of the sulfur content from each load received of coke utilized in the Submerged Arc Furnaces. The facility may use vendor test data or shipment certifications to verify the sulfur content in the coke.

ADEM Admin. Code R. 334-3-14-.04 (Anti-PSD)

20 MW Electric Arc Furnace No. 2 & Associated Tapping Operation with Baghouse (EP-002)

Globe Metallurgical uses this furnace and associated tapping operation for the production of ferromanganese and silicomanganese. The process equipment to make these products is the same as the existing process for silicon metal production, only some raw materials are different. The raw materials have change because during this process Globe will be producing ferromanganese and silicomanganese instead of silicon metal. This process is subject to the applicable requirements of 40 CFR Part 63 Subpart XXX, National Emission Standards for Hazardous Air Pollutants for Ferroalloys Production: Ferromanganese and Silicomanganese.

Emission Standards:

PM:

This process is subject to the following PM emission standards:

Standard 1 – Particulate matter emissions from this unit shall not exceed:

9.8 kg/hr (21.7 lbs/hr) when producing ferromanganese in an open furnace operating at a furnace power input of 22 MW or less

or

12.3 kg/hr (27.2 lbs/hr) when producing silicomanganese in an open furnace operating at a furnace power input of 25 MW or less.

40 CFR 63 Subpart XXX, §63.1652(b)(1) & §63.1652(b)(4)

Standard 2 – Particulate matter emissions from this unit shall not exceed 0.51 lb per Megawatt-hr.

40 CFR 60 Subpart Z, §60.262(a)(2)

or

$E = 3.59 (P)^{0.62}$ (P less than 30 tons per hour)

$E = 17.31(P)^{0.16}$ (P greater than 30 tons per hour)

where E = Emissions in pounds per hour

P = Process weight per hour in tons per hour

ADEM Admin. Code R. 335-3-4-.04(1)

The allowable for this unit would be the greater of the ADEM Admin Code R. 335-3-4-.04(1) and

the 40 CFR 60 Subpart Z §60.262(a)(1) emission standards.

ADEM Admin. Code R. 335-3-10-.01(2) states "The emission standards in this Chapter shall supercede the emission standards in Chapters 335-3-3, -4, -5, -6, -7, and -8 if both of the following criteria are met: 1) the source category is subject to the regulations in this Chapter for the specific pollutants to which an emission standard under this Chapter applies, and 2) the emission standard under Chapters 335-3-3, -4, -5, -6, -7, and -8 is more stringent than the emission standard in this Chapter for the specific pollutants regulated.

The SIP process weight could be more stringent than the NSPS allowable and the source category, Ferro Alloy Production, is subject to an NSPS, Subpart Z. Therefore ADEM Admin. Code R. 335-3-10-.01(2) is applicable in this case. The furnace is subject to the NSPS emissions limit, but not the other requirements of the NSPS.

ADEM Admin. Code R. 335-3-10-.01(2)

If conditions occur when Standard 1 is less stringent than Standard 2, then Standard 2 would apply.

Opacity:

The emissions exiting from a shop due solely to operations of any affected submerged arc furnace, shall not exceed 20 percent opacity for more than one 6-minute period during any performance test, except when blowing taps, poling, and oxygen lancing of the tap hole; burndowns associated with electrode measurements; and maintenance activities associated with submerged arc furnaces and casting operations are exempt from the opacity standards specified in this section.

40 CFR 63 Subpart XXX, §63.1653

SO_2:

The sulfur content of the coke utilized in the Submerged Arc Furnace shall not exceed 0.75% by weight.

ADEM Admin. Code R. 335-3-14-.04 (Anti-PSD)

Expected Emissions:

Particulate Matter (PM):

The expected PM controlled emissions from the baghouse are 4.3 lbs/hr (18.3 TPY). This is based on AP-42 emission factors and operating 8,760 hours per year. According to Globe Metallurgical, the baghouse has a controlled efficiency of 99.5%.

Sulfur Dioxide (SO_2):

The expected SO_2 emissions are 94 lbs/hr (412 TPY). This is based on a mass balance and operating 8,760 hours per year.

Nitrogen Oxides (NO_X):

The expected NO_X emissions are 66 lbs/hr (286 TPY). This is based on stack test data and operating 8,760 hours per year.

Carbon Monoxide (CO):

The expected CO emissions are 89 lbs/hr (385.5 TPY). This is based on stack test data and operating 8,760 hours per year.

Volatile Organic Compounds (VOC):

The expected VOC emissions are 11.2 lbs/hr (49 TPY). This is based on stack test data and operating 8,760 hours per year.

Hydrogen Chloride (HCl):

The expected HCl emissions are 8.4 lbs/yr (37 TPY). This is based on stack test data and operating 8,760 hours per year.

Lead

The expected lead emissions are 0.024 lbs/hr (0.1 TPY). This is based on a mass balance and operating 8,760 hours per year.

MACT Monitoring:

The facility must observe on a daily basis for the presence of any visible emissions and conduct the following activities:

(a) Daily monitoring of pressure drop across each baghouse cell, or across the baghouse if it is not possible to monitor each cell individually, to ensure the pressure drop is within the normal operating range identified in the baghouse maintenance plan.

(b) Weekly confirmation that dust is being removed from hoppers through visual inspection, or equivalent means of ensuring the proper functioning of removal mechanisms.
(c) Daily check of compressed air supply for pulse-jet baghouses.
(d) An appropriate methodology for monitoring cleaning cycles to ensure proper operation.
(e) Monthly check of bag cleaning mechanisms for proper functioning through visual inspection or equivalent means.
(f) Quarterly visual check of bag tension on reverse air and shaker-type baghouses to ensure that the bags are not kinked (kneed or bent) or laying on their sides. Such checks are not required for shaker-type baghouses using self-tensioning (spring loaded) devices.
(g) Quarterly confirmation of the physical integrity of the baghouse structure through visual inspection of the baghouse interior for air leaks.
(h) Semiannual inspection of fans for wear, material buildup, and corrosion through visual inspection, vibration detectors, or equivalent means.

40 CFR 63 Subpart XXX, §63.1657(a)(1) & §63.1657(a)(2)

The facility must develop and implement corrective action procedures (as part of the maintenance plan required by 40 CFR §63.1655(b)) to be followed in the case of an observation of visible emissions from the baghouse or the indication through the periodic baghouse system inspections that the system is not operating properly. The owner or operator must initiate corrective action as soon as practicable after the occurrence of the observation or event indicating a problem.

40 CFR 63 Subpart XXX, §63.1657(a)(4), §63.1657(a)(5), & §63.1657(a)(6)

The facility must comply with one of the following monitoring options:

(a) The owner or operator must check and record the control system fan motor amperes and capture system damper positions once per shift.
(b) The owner or operator must install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate through each separately ducted hood.
(c) The owner or operator must install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate at the inlet of the air pollution control device and must check and record the capture system damper positions once per shift.

The selected option must be consistent with that selected during the initial performance test. Failure to maintain the appropriate capture system parameters (fan motor amperes, flow rate,

and/or damper positions) establishes the need to initiate corrective action as soon as practicable after the monitoring excursion in order to minimize excess emissions.

40 CFR 63 Subpart XXX, §63.1657(c)

The facility must prepare and implement a fugitive dust control plan according to 40 CFR 63.11654(a).

40 CFR 63 Subpart XXX, §63.1654(a)

The facility must develop and implement a written maintenance plan for each air pollution control device associated with the submerged arc furnace according to 40 CFR 63.1655(b) & (c).

40 CFR 63 Subpart XXX, §63.1655(b) & §63.1655(c)

Periodic Monitoring:

The facility shall perform a visual check, once per week, of the baghouse stack associated with this unit. This check shall be performed by a person familiar with Method 9. If visible emissions in excess of 10% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform a weekly visual check of the furnace building. This shall be performed by a person familiar with Method 9. If visible emissions in excess of 15% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform a daily inspection of the furnace building to verify proper operation of the furnace baghouse.

The following activities shall be performed:

(a) Once per day check the furnace and tap hoods for fugitive emissions.

(b) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

CAM:

This unit could potentially be subject to Compliance Assurance Monitoring (CAM) for PM, but the unit is subject to 40 CFR Part 63 Subpart XXX requirements, which is considered presumptively acceptable monitoring in regards to CAM. This unit is not subject to CAM for SO_2 because the control device for this unit is not used to comply with the applicable SO_2 standard.

Recordkeeping & Reporting:

This operation is subject to the applicable requirements of 40 CFR Part 63 Subpart XXX, "National Emission Standards for Hazardous Air Pollutants for Ferroalloy Production: Ferromanganese and Silicomanganese" to include the reporting requirements in §63.1659(a) and §63.1659(b)(1,3,4,6(ii)).

40 CFR 63 Subpart XXX, §63.1659(a) & §60.1659(b)(1,3,4,6(ii))

The facility shall comply with all reporting requirements under 40 CFR §63.10 of subpart A.

40 CFR 63 Subpart XXX, §63.1659(a)

The facility shall submit semiannual monitoring reports in accordance with 40 CFR §63.1659(b).

40 CFR 63 Subpart XXX, §63.1659(b)

The facility shall submit periodic startup, shutdown, and malfunction reports in accordance with 40 CFR §63.10(d)(5) and §63.1659(a)(4).

40 CFR 63 Subpart A, §63.10(d)(5) & 40 CFR 63 Subpart XXX, §63.1659(a)(5)

This operation is subject to the applicable requirements of 40 CFR Part 63 Subpart XXX, "National Emission Standards for Hazardous Air Pollutants for Ferroalloy Production: Ferromanganese and Silicomanganese" to include the recordkeeping requirements in §63.1660(a) and §63.1660(b)(1(ii,v,vi,vii),2).

40 CFR 63 Subpart XXX, §63.1660(a) & §63.1660(b)(1(ii,v,vi,vii),2)

The facility shall maintain a record of all inspections, to include visible observations, performed to satisfy the requirements of periodic monitoring. This shall include all problems observed and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall report any Method 9's on the furnace baghouse with a six minute average opacity over 20%. Such reports shall be made within 48 hrs of such observations.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall maintain records of the sulfur content from each load received of coke utilized in the Submerged Arc Furnaces. The facility may use vendor test data or shipment certifications to verify the sulfur content in the coke.

ADEM Admin. Code R. 334-3-14-.04 (Anti-PSD)

Product Handling, Crushing, and Screening with Baghouse 3 & 4 (EP003 & EP004)

This process includes product crushing, screening, transfer, and loadout. Cast metal from casting chills is broken up, loaded on to a conveyor, transferred to a crusher, and screened. Product is load into boxes and trucks. Product conveyors, screens, and crushers are ducted to the two baghouses. The handling process is similar to the existing process for silicon metal, only some of the raw materials are different.

Emission Standards:

PM:

Particulate matter emissions from this unit shall not exceed 69 mg/dscm (0.03 gr/dscf).

40 CFR 63 Subpart XXX, §63.1652(e)(2)

Opacity:

Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code R. 335-3-4-.01(1)

Expected Emissions:

Particulate Matter (PM):

The expected PM controlled emissions from the baghouses are 2.1 lbs/hr (9.2 TPY). This is based on AP-42 emission factors and a 99% control efficiency for the baghouses.

Lead:

The expected lead emissions are 0.006 lbs/hr (0.027 TPY). This is based on a mass balance and operating 8,760 hours per year.

MACT Monitoring:

The facility must observe on a daily basis for the presence of any visible emissions and conduct the following activities:

(a) Daily monitoring of pressure drop across each baghouse cell, or across the baghouse if it is not possible to monitor each cell individually, to ensure the pressure drop is within the normal operating range identified in the baghouse maintenance plan.
(b) Weekly confirmation that dust is being removed from hoppers through visual inspection, or equivalent means of ensuring the proper functioning of removal mechanisms.
(c) Daily check of compressed air supply for pulse-jet baghouses.
(d) An appropriate methodology for monitoring cleaning cycles to ensure proper operation.
(e) Monthly check of bag cleaning mechanisms for proper functioning through visual inspection or equivalent means.
(f) Quarterly visual check of bag tension on reverse air and shaker-type baghouses to ensure that the bags are not kinked (kneed or bent) or laying on their sides. Such checks are not required for shaker-type baghouses using self-tensioning (spring loaded) devices.
(g) Quarterly confirmation of the physical integrity of the baghouse structure through visual inspection of the baghouse interior for air leaks.
(h) Semiannual inspection of fans for wear, material buildup, and corrosion through visual inspection, vibration detectors, or equivalent means.

40 CFR 63 Subpart XXX, §63.1657(a)(1) & §63.1657(a)(2)

The facility must develop and implement corrective action procedures (as part of the maintenance plan required by 40 CFR §63.1655(b)) to be followed in the case of an observation of visible emissions from the baghouse or the indication through the periodic baghouse system inspections that the system is not operating properly. The owner or operator must initiate corrective action as soon as practicable after the occurrence of the observation or event indicating a problem.

40 CFR 63 Subpart XXX, §63.1657(a)(4), §63.1657(a)(5), & §63.1657(a)(6)

The facility must prepare and implement a fugitive dust control plan according to 40 CFR 63.11654(a).

40 CFR 63 Subpart XXX, §63.1654(a)

The facility must develop and implement a written maintenance plan for each air pollution control device associated with the crushing and screening operations according to 40 CFR 63.1655(b) & (c).

40 CFR 63 Subpart XXX, §63.1655(b) & §63.1655(c)

Periodic Monitoring:

The facility shall perform a visual check, once per week, of the baghouse stacks associated with these units. This check shall be performed by a person familiar with Method 9. If visible emissions in excess of 10% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform the following weekly inspection of the baghouses associated with this unit to verify proper operation.

The following activities shall be performed:

(a) Once per week check the capture hoods associated with this permit for fugitive emissions.

(b) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

CAM:

This operation does not have pre-controlled potential emissions greater than any major source threshold; therefore, CAM does not apply.

Reporting & Recordkeeping:

This operation is subject to the applicable requirements of 40 CFR Part 63 Subpart XXX, "National Emission Standards for Hazardous Air Pollutants for Ferroalloy Production: Ferromanganese and Silicomanganese" to include the reporting requirements in §63.1659(a) and §63.1659(b)(1,3,4,6(ii)).

40 CFR 63 Subpart XXX, §63.1659(a) & §60.1659(b)(1,3,4,6(ii))

The permittee shall comply with all reporting requirements under 40 CFR §63.10 of subpart A.

40 CFR 63 Subpart XXX, §63.1659(a)

The permittee shall submit semiannual monitoring reports in accordance with 40 CFR §63.1659(b).

40 CFR 63 Subpart XXX, §63.1659(b)

The permittee shall submit periodic startup, shutdown, and malfunction reports in accordance with 40 CFR §63.10(d)(5) and §63.1659(a)(4).

40 CFR 63 Subpart A, §63.10(d)(5) & 40 CFR 63 Subpart XXX, §63.1659(a)(5)

This operation is subject to the applicable requirements of 40 CFR Part 63 Subpart XXX, "National Emissions Standard for Hazardous Air Pollutants for Ferroalloy Production: Ferromanganese and Silicomanganese" to include the recordkeeping requirements in §63.1660(a) and §63.1660(b)(1(ii,v,vi,vii),2).

40 CFR 63 Subpart XXX, §63.1660(a) & §63.1660(b)(1(ii,v,vi,vii),2)

The facility shall maintain a record of all inspections, to include visible observations and Method 9's, performed to satisfy the requirements of periodic monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall report any Method 9's with an average opacity over 20%. Such reports shall be made within 48 hrs of such observations

ADEM Admin. Code R. 335-3-16-.05(c)

Product Handling (F004)

Product handling includes raw material receiving, transfer, and storage. The handling process is similar to the existing process for silicon metal, only some of the raw materials are different.

The emission standards, expected emissions, periodic monitoring, recordkeeping and reporting for this unit are the same as Scenario #1.

NSPS Emergency Generator (EP05)

A 418 hp emergency generator (EP05) at the facility is classified as compression ignition emergency generators, because it is fueled by diesel fuel. The 418 hp emergency generator is subject to the applicable requirements in 40 CFR Part 63 Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE)) and 40 CFR Part 60 Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines).

Emergency Generator EP06 must meet the requirements of Subpart ZZZZ by meeting the requirements of 40 CFR Part 60 Subpart IIII, for compression ignition engines.

40 CFR Part 63 Subpart ZZZZ, §63.6590(c)(6)

Emission Standards:

NSPS Subpart IIII:

This unit are subject to the applicable emission standards listed in Table 1 to 40 CFR Part 60 Subpart IIII and 40 CFR §60.4202(a)(2).

40 CFR Part 60 Subpart IIII, §60.4205(a) & §60.4205(b)

This unit must be certified according to 40 CFR Part 60 Subpart IIII for the same model year and maximum engine power.

40 CFR Part 60 Subpart IIII, §60.4205(b)

This unit must be installed and configured according to the manufacturer's specifications.

40 CFR Part 60 Subpart IIII, §60.4211(a) & §60.4211(b)

The facility must operate and maintain this unit according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine.

40 CFR Part 60 Subpart IIII, §60.4206

This unit must use diesel fuel that meets the requirements of 40 CFR §80.510(b).

40 CFR Part 60 Subpart IIII, §60.4207(b)

The Permittee must install a non-resettable hour meter prior to startup of the engine.

40 CFR Part 60 Subpart IIII, §60.4209(a)

This unit may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of this unit is limited to 100 hours per year. There is no time limit on the use of this unit in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year . This unit may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in 40 CFR 60 Subpart IIII, is prohibited.

40 CFR Part 60 Subpart IIII, §60.4211(f)

Expected Emissions:

Particulate Matter (PM):

The expected PM emissions from EP06 are 0.26 lbs/hr (0.065 TPY). This is based on AP-42 emission factors and operating 500 hours per year.

Sulfur Dioxide (SO_2):

The expected SO_2 emissions are 0.24 lbs/hr (0.06 TPY). This is based on AP-42 emission factors and operating 500 hours per year.

Nitrogen Oxides (NO_X):

The expected NO_X emissions are 3.56 lbs/hr (0.89 TPY). This is based on AP-42 emission factors and operating 500 hours per year.

Carbon Monoxide (CO):

The expected CO emissions are 0.79 lbs/hr (0.20 TPY). This is based on AP-42 emission factors and operating 500 hours per year.

Volatile Organic Compounds (VOC):

The expected VOC emissions are 0.29 lbs/hr (0.073TPY). This is based on AP-42 emission factors and operating 500 hours per year.

Periodic Monitoring, Recordkeeping, & Reporting:

Based on the low level of expected emissions from this source, the source is not subject to any additional monitoring or recordkeeping and reporting requirements other than those listed in the general provisos.

CAM:

This source is uncontrolled; therefore, CAM does not apply.

NON-NSPS Emergency Generator (EP06)

A 250 hp emergency generator (EP06) at the facility is classified as compression ignition emergency generators, because it is fueled by diesel fuel. The 250 hp emergency generator is subject to 40 CFR Part 63 Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE)) but not 40 CFR Part 60 Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines) because this unit was installed in 1999.

NSPS Subpart IIII:

Subpart IIII applies to owners and operators of engines that commence construction after July 11, 2005, where the engines are manufactured on or after April 1, 2006, and are not fire pump engines. This compression ignition generator was manufactured before April 1, 2006 and is not a fire pump engine, so Subpart IIII does not apply.

40 CFR Part 60 Subpart IIII, §60.4200(a)(3)

Emission Standards:

MACT Subpart ZZZZ:

This unit is subject to the applicable requirements listed in Table 2c of 40 CFR 63 Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

40 CFR Part 63 Subpart ZZZZ, §63.6602

The Permittee must operate and maintain this unit according to the manufacturer's emission-related written instructions or develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

40 CFR Part 63 Subpart ZZZZ, §63.6625(e)(2)

The Permittee must install a non-resettable hour meter for the unit if one is not already installed.

40 CFR Part 63 Subpart ZZZZ, §63.6625(f)

This unit may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of this unit is limited to 100 hours per year. There is no time limit on the use of this unit in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year . This unit may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in 40 CFR 63 Subpart ZZZZ, is prohibited.

40 CFR Part 63 Subpart ZZZZ, §63.6640(f)(1)

Expected Emissions:

Particulate Matter (PM):

The expected PM emissions from EP05 are 0.19 lbs/hr (0.048 TPY). This is based on AP-42 emission factors and operating 500 hours per year.

Sulfur Dioxide (SO_2):

The expected SO_2 emissions are 0.18 lbs/hr (0.045 TPY). This is based on AP-42 emission factors and operating 500 hours per year.

Nitrogen Oxides (NO_X):

The expected NO_X emissions are 2.74 lbs/hr (0.69 TPY). This is based on AP-42 emission factors and operating 500 hours per year.

Carbon Monoxide (CO):

The expected CO emissions are 0.59 lbs/hr (0.15 TPY). This is based on AP-42 emission factors and operating 500 hours per year.

Volatile Organic Compounds (VOC):

The expected VOC emissions are 0.22 lbs/hr (0.055TPY). This is based on AP-42 emission factors and operating 500 hours per year.

MACT Monitoring:

The Permittee shall perform the following activities:

(a) Change oil and filter every 500 hours of operation or annually, whichever comes first;

(b) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first;

(c) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

Or utilize an oil analysis program as describe in §63.6625(i) or §636625(j).

40 CFR Part 63 Subpart ZZZZ, Table 2c(1) & Table 2c(6) & §63.6625(i) & (j)

If an oil analysis program is utilized for a stationary compression ignition engine, the Permittee must perform the oil analysis at the same frequency specified above for changing the oil. The Permittee must at a minimum analyze the following parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new, viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new, or percent water content (by volume) is greater than 0.5. If any of the limits are exceed, the Permittee must change the oil within 2 business days of receiving the results of the analysis or before commencing operation, whichever is later.

40 CFR Part 63 Subpart ZZZZ, §63.6625(i)

If an oil analysis program is utilized for a stationary spark ignition engine, the Permittee must perform the oil analysis at the same frequency specified above for changing the oil. The Permittee must at a minimum analyze the following parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligram of potassium hydroxide (KOH) per gram from the Total Acid Number of the oil when new, viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new, or percent water content (by volume) is greater than 0.5. If any of the limits are exceed, the Permittee must change the oil within 2

business days of receiving the results of the analysis or before commencing operation, whichever is later.

40 CFR Part 63 Subpart ZZZZ, §63.6625(j)

CAM:

This source is uncontrolled; therefore, CAM does not apply.

Recordkeeping and Reporting:

The Permittee must keep records of the parameters that are analyzed as part of the oil analysis program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

40 CFR Part 63 Subpart ZZZZ, §63.6625(i) & (j)

The Permittee must keep records of the maintenance conducted on this unit in order to demonstrate that you operated and maintained this unit and after-treatment control device (if any) according to your own maintenance plan.

40 CFR Part 63 Subpart ZZZZ, §63.6655(e)

The Permittee must keep records of the hours of operation of each engine that is recorded through the non-resettable hour meter. The facility must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.

40 CFR Part 63 Subpart ZZZZ, §63.6655(f)

Recommendation

Based on the above analysis and pending the resolution of any comments received during the 30-day public comment period and 45 day EPA review, I recommend issuing Globe Metallurgical's Title V MSOP renewal.

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Tyler Phillips
Industrial Minerals Section
Energy Branch
Air Division

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Date